



Section 1: Project Information

Energy Code: 2009 IECC
Project Title: Starbucks Coffee Company
Project Type: Alteration

Construction Site: 1080 Forest Avenue, Portland, ME 04103
Owner/Agent:
Designer/Contractor:

Section 2: Interior Lighting and Power Calculation

Table with 4 columns: Area Category, Floor Area (R2), Allowed Watts / ft2, Allowed Watts (B x C). Row: Dining, Cafeteria/Fast Food, 1337, 1.4, 1872.

Section 3: Interior Lighting Fixture Schedule

Table with 5 columns: Fixture ID, Description / Lamp / Wattage Per Lamp / Ballast, Lamps/Fixture, # of Fixtures, Fixture Watt. (C x D), E. Lists various lighting fixtures like Track lighting, LED, and Compact Fluorescent.

Section 4: Requirements Checklist

Lighting PASSES
Lighting Wattage:
Total proposed watts must be less than or equal to total allowed watts.
Table with columns: Allowed Watts, Proposed Watts, Complies.

Project Title: Starbucks Coffee Company
Data filename: F:\2017\100-17-SB - NORR\146-17-SB - Portland, ME\DOCS\146-17.cck
Report date: 08/16/17
Page 1 of 5

- Requirements Specific To: RTU2:
1. Equipment minimum efficiency: Central Furnace (Gas): 80.00 % Et (or 78% AFUE)
2. Equipment minimum efficiency: Single Package Unit: 11.00 EER
3. Integrated economizer is required for this location and system.

- Requirements Specific To: AHU/CU-1:
1. Equipment minimum efficiency: Split System: 13.00 SEER

Generic Requirements: Must be met by all systems to which the requirement is applicable:
1. Plant equipment and system capacity no greater than needed to meet loads

- Exception(s):
- Standby equipment automatically off when primary system is operating
- Multiple units controlled to sequence operation as a function of load
2. Minimum one temperature control device per system
3. Minimum one humidity control device per installed humidification/dehumidification system
4. Load calculations per ASHRAE/ACCA Standard 183.
5. Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
6. Outside-air source for ventilation; system capable of reducing OSA to required minimum
7. R-5 supply and return air duct insulation in unconditioned spaces
8. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
9. Hot water pipe insulation: 1.5 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in.
10. Chilled water/refrigerant/brine pipe insulation: 1.5 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in.
11. Operation and maintenance manual provided to building owner
12. Thermostatic controls have 5°F deadband
13. Balancing devices provided in accordance with IMC 603.17
14. Demand control ventilation (DCV) present for high design occupancy areas (>40 person/1000 ft2 in spaces >500 ft2) and served by systems with any one of 1) an air-side economizer, 2) automatic modulating control of the outdoor air damper, or 3) a design outdoor airflow greater than 3000 cfm.

Project Title: Starbucks Coffee Company
Data filename: F:\2017\100-17-SB - NORR\146-17-SB - Portland, ME\DOCS\146-17.cck
Report date: 08/16/17
Page 4 of 5

1972 1736 Passes

Controls, Switching, and Wiring:

- 2. Daylight zones under skylights more than 15 feet from the perimeter have lighting controls separate from daylight zones adjacent to vertical fenestration.
3. Daylight zones have individual lighting controls independent from that of the general area lighting.

- Exceptions:
- Contiguous daylight zones spanning no more than two orientations are allowed to be controlled by a single controlling device.
- Daylight spaces enclosed by walls or ceiling height partitions and containing two or fewer light fixtures are not required to have a separate switch for general area lighting.
4. Independent controls for each space (switch/occupancy sensor).

- Exceptions:
- Areas designated as security or emergency areas that must be continuously illuminated.
- Lighting in stairways or corridors that are elements of the means of egress.
5. Master switch at entry to hotel/motel guest room.
6. Individual dwelling units separately metered.
7. Medical task lighting or art/history display lighting claimed to be exempt from compliance has a control device independent of the control of the nonexempt lighting.
8. Each space required to have a manual control also allows for reducing the connected lighting load by at least 50 percent by either controlling all luminaires, dual switching of alternate rows of luminaires, alternate luminaires, or alternate lamps, switching the middle lamp luminaires independently of other lamps, or switching each luminaire or each lamp.

- Exceptions:
- Only one luminaire in space.
- An occupant-sensing device controls the area.
- The area is a corridor, storeroom, restroom, public lobby or sleeping unit.
- Areas that use less than 0.6 Watts/sq. ft.
9. Automatic lighting shutoff control in buildings larger than 5,000 sq. ft.

- Exceptions:
- Sleeping units, patient care areas, and spaces where automatic shutoff would endanger safety or security.
10. Photoacoustic/astromonical time switch on exterior lights.

- Exceptions:
- Lighting intended for 24 hour use.
11. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).

- Exceptions:
- Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.

Section 5: Compliance Statement

Compliance Statement: The proposed lighting alteration project represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting alteration project has been designed to meet the 2009 IECC, Chapter 8, requirements in COMcheck Version 4.0.6.2 and to comply with the mandatory requirements in the Requirements Checklist.

WILLIAM J. ALKEMEYER, P.E. SEE TITLE BLOCK FOR SIGNATURE AND DATE
Signature Date

Project Title: Starbucks Coffee Company
Data filename: F:\2017\100-17-SB - NORR\146-17-SB - Portland, ME\DOCS\146-17.cck
Report date: 08/16/17
Page 2 of 5

- 17. Exhaust air heat recovery included for systems 5,000 cfm or greater with more than 70% outside air fraction or specifically exempted
Exception(s):
- Hazardous exhaust systems, commercial kitchen and clothes dryer exhaust systems that the International Mechanical Code prohibits the use of energy recovery systems.
- Systems serving spaces that are heated and not cooled to less than 60°F.
- Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
- Heating systems in climates with less than 3600 HDD.
- Cooling systems in climates with a 1 percent cooling design wet-bulb temperature less than 64°F.
- Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
- Laboratory fume hood exhaust systems that have either a variable air volume system capable of reducing exhaust and makeup air volume to 50 percent or less of design values or, a separate make up air supply meeting the following makeup air requirements: a) at least 75 percent of exhaust flow rate, b) heated to no more than 2°F below room setpoint temperature, c) cooled to no lower than 3°F above room setpoint temperature, d) no humidification added, e) no simultaneous heating and cooling.

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical alteration project represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical alteration project has been designed to meet the 2009 IECC, Chapter 8, requirements in COMcheck Version 4.0.6.2 and to comply with the mandatory requirements in the Requirements Checklist.

WILLIAM J. ALKEMEYER, P.E. SEE TITLE BLOCK FOR SIGNATURE AND DATE
Signature Date

Section 6: Post Construction Compliance Statement

- HVAC record drawings of the actual installation, system capacities, calibration information, and performance data for each equipment provided to the owner.
HVAC O&M documents for all mechanical equipment and system provided to the owner by the mechanical contractor.
Written HVAC balancing and operations report provided to the owner.
The above post construction requirements have been completed.

Principal Mechanical Designer-Name Signature Date

Project Title: Starbucks Coffee Company
Data filename: F:\2017\100-17-SB - NORR\146-17-SB - Portland, ME\DOCS\146-17.cck
Report date: 08/16/17
Page 5 of 5



Section 1: Project Information

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Project Type: Alteration

Construction Site: 1080 Forest Avenue, Portland, ME 04103
Owner/Agent:
Designer/Contractor:

Section 2: General Information

Building Location (for weather data): Portland, Maine
Climate Zone: 6a

Section 3: Mechanical Systems List

Table with 2 columns: Quantity, System Type & Description. Lists RTU1, RTU2, AHU/CU-1 systems with heating and cooling capacities and efficiencies.

Section 4: Requirements Checklist

- Requirements Specific To: RTU1:
1. Equipment minimum efficiency: Central Furnace (Gas): 80.00 % Et (or 78% AFUE)
2. Equipment minimum efficiency: Single Package Unit: 13.00 SEER
3. Integrated economizer is required for this location and system.
4. Cooling system provides a means to relieve excess outdoor air during economizer operation.

Project Title: Starbucks Coffee Company
Data filename: F:\2017\100-17-SB - NORR\146-17-SB - Portland, ME\DOCS\146-17.cck
Report date: 08/16/17
Page 3 of 5

ISSUED FOR CONSTRUCTION - 08/23/2017



STARBUCKS COFFEE COMPANY
2401 UTAH AVENUE SOUTH
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STARBUCKS TEMPLATE VERSION I2016.12.23

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PROJECT NAME: RENOVATION OF STARBUCKS COFFEE PORTLAND, 1080 FOREST AVE.
PROJECT ADDRESS: 1080 FOREST AVENUE PORTLAND, ME 04103 CUMBERLAND COUNTY

STORE #: 11917
PROJECT #: 37548-037
ISSUE DATE: 08/04/2017
PROGRAM MANAGER: J. BOND
DESIGNER: A. LEE
LEED AP: R. TURNER-LAUCK
PRODUCTION DESIGNER: E. VEGA
CHECKED BY: BMS / SWE

Revision Schedule table with columns: Rev, Date, By, Description

SHEET TITLE: ENERGY CODE CALCULATIONS
SCALE: AS SHOWN

SHEET NUMBER: E-0004

